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V. V. Sokolovskiy, Corresponding Member of Academy of Sciences USSR, spoke on "The Work of Academician G. Galerkin on the Theory of Elasticity," giving him credit for working out effective methods of exact and approximate integration of the equations of the theory of elasticity, which have opened new vistas and will be further developed. The speaker said that Galerkin's theory of boundary problems (1915), one of the most popular methods for the approximate solution of the problems of mechanics, was widely applied in problems on the torsion and bending of bars, the stability and oscillations of expansible bodies, and the flutter of airplane wings. The work of V. Ritets and M. V. Keldysh along these lines was also mentioned.

Sokolovskiy called Galerkin's method of solving the problem of bending plates one of the greatest contributions to technical theory. His research led him to the question of the limits to its applicability, which showed the necessity of working out a theory for bending thick plate. To evolve such a theory, technically applicable, for instance, in hydrotechnical construction, it was necessary to work out an effective method of solving three-dimensional problems of the theory of elasticity. Galerkin successfully accomplished this.

His method of solving spatial problems of the theory of elasticity, the speaker said, was his greatest achievement. He succeeded in obtaining classic forms for pressure components and displacement components through three bi-harmonic functions. His research on the theory of heavy plate in rectangular, curved, and sectoral forms is a brilliant example of the application of his method of three bi-harmonic functions. This method was rapidly developed and improved, superfluous generalities were eliminated, and the possibility of representing the general integral equations of the theory of elasticity through three harmonic functions shown. Proof of the method, worked out by S. A. Gersagorin and P. F. Pankovich (1931-1934) was recently confirmed by the work of L. N. Ter-Martich'yan and D. I. Sherman.

Application of this method of three functions has made it possible to study problems on the compression, turning, and torsion of a cone by a couple-force applied at the top, and also on questions concerning concentration of tension around different sorts of apertures and recesses and near contacts with expansible bodies.

In conclusion, the speaker said that the rich scientific legacy left by B. G. Galerkin was a fertile field for further investigation by his disciples.

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